

The following are information on sequences described
herein:

[SEQUENCE INFORMATION]

SEQUENCE LISTING

<110> Nippon Shokubai Co. Ltd.

<120> Process for Producing L-aspartic acid

<130> PH-683

<150> JP 10-278571

<151> 1998-09-30

<150> JP 10-278579

<151> 1998-09-30

<160> 3

<170> PatentIn Ver. 2.0

<210> 1

<211> 1573

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: cDNA to mRNA of
aspartase gene derived from Escherichia coli K-12

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<221> CDS

<222> (91)..(1524)

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Met Ser Asn Asn Ile Arg Ile Glu
1 5
gaa gat ctg ttg ggt acc agg gaa gtt cca gct gat gcc tac tat ggt 162
Glu Asp Leu Leu Gly Thr Arg Glu Val Pro Ala Asp Ala Tyr Tyr Gly
10 15 20
gtt cac act ctg aga gcg att gta aac ttc tat atc agc aac aac aaa 210
Val His Thr Leu Arg Ala Ile Val Asn Phe Tyr Ile Ser Asn Asn Lys
25 30 35 40
atc agt gat att cct gaa ttt gtt cgc ggt atg gta atg gtt aaa aaa 258
Ile Ser Asp Ile Pro Glu Phe Val Arg Gly Met Val Met Val Lys Lys
45 50 55
gcc gca gct atg gca aac aaa gag ctg caa acc att cct aaa agt gta 306
Ala Ala Ala Met Ala Asn Lys Glu Leu Gln Thr Ile Pro Lys Ser Val
60 65 70
gcg aat gcc atc att gcc gca tgt gat gaa gtc ctg aac aac gga aaa 354
Ala Asn Ala Ile Ile Ala Ala Cys Asp Glu Val Leu Asn Asn Gly Lys
75 80 85
tgc atg gat cag ttc ccg gta gac gtc tac cag ggc ggc gca ggt act 402
Cys Met Asp Gln Phe Pro Val Asp Val Tyr Gln Gly Gly Ala Gly Thr
90 95 100
tcc gta aac atg aac acc aac gaa gtg ctg gcc aat atc ggt ctg gaa 450

Ser Val Asn Met Asn Thr Asn Glu Val Leu Ala Asn Ile Gly Leu Glu
 105 110 115 120
 ctg atg ggt cac caa aaa ggt gaa tat cag tac ctg aac ccg aac gac 498
 Leu Met Gly His Gln Lys Gly Glu Tyr Gln Tyr Leu Asn Pro Asn Asp
 125 130 135
 cat gtt aac aaa tgt cag tcc act aac gac gca tac ccg acc ggt ttc 546
 His Val Asn Lys Cys Gln Ser Thr Asn Asp Ala Tyr Pro Thr Gly Phe
 140 145 150
 cgt atc gca gtt tac tct tcc ctg att aag ctg gta gat gcg att aac 594
 Arg Ile Ala Val Tyr Ser Ser Leu Ile Lys Leu Val Asp Ala Ile Asn
 155 160 165
 caa ctg cgt gaa ggc ttt gaa cgt aaa ggt gtc gaa ttc cag gac atc 642
 Gln Leu Arg Glu Gly Phe Glu Arg Lys Ala Val Glu Phe Gln Asp Ile
 170 175 180
 ctg aaa atg ggt cgt acc cag ctg cag gac gca gta ccg atg acc ctc 690
 Leu Lys Met Gly Arg Thr Gln Leu Gln Asp Ala Val Pro Met Thr Leu
 185 190 195 200
 ggt cag gaa ttc cgc gct ttc agc atc ctg ctg aaa gaa gaa gtg aaa 738
 Gly Gln Glu Phe Arg Ala Phe Ser Ile Leu Leu Lys Glu Glu Val Lys
 205 210 215
 aac atc caa cgt acc gct gaa ctg ctg ctg gaa gtt aac ctt ggt gca 786
 Asn Ile Gln Arg Thr Ala Glu Leu Leu Leu Glu Val Asn Leu Gly Ala
 220 225 230
 aca gca atc ggt act ggt ctg aac acg ccg aaa gag tac tct ccg ctg 834
 Thr Ala Ile Gly Thr Gly Leu Asn Thr Pro Lys Glu Tyr Ser Pro Leu
 235 240 245
 gca gtg aaa aaa ctg gct gaa gtt act ggc ttc cca tgc gta ccg gct 882
 Ala Val Lys Lys Leu Ala Glu Val Thr Gly Phe Pro Cys Val Pro Ala
 250 255 260

00408142-0920000

Sub.al

| | |
|---|------|
| gaa gac ctg atc gaa gcg acc tct gac tgc ggc gct tat gtt atg gtt | 930 |
| Glu Asp Leu Ile Glu Ala Thr Ser Asp Cys Gly Ala Tyr Val Met Val | |
| 265 | 270 |
| 275 | 280 |
| cac ggc gcg ctg aaa cgc ctg gct gtg aag atg tcc aaa atc tgt aac | 978 |
| His Gly Ala Leu Lys Arg Leu Ala Val Lys Met Ser Lys Ile Cys Asn | |
| 285 | 290 |
| 295 | |
| gac ctg cgc ttg ctc tct tca ggc cca cgt gcc ggc ctg aac gag atc | 1026 |
| Asp Leu Arg Leu Leu Ser Ser Gly Pro Arg Ala Gly Leu Asn Glu Ile | |
| 300 | 305 |
| 310 | |
| aac ctg ccg gaa ctg cag gcg ggc tct tcc atc atg cca gct aaa gta | 1074 |
| Asn Leu Pro Glu Leu Gln Ala Gly Ser Ser Ile Met Pro Ala Lys Val | |
| 315 | 320 |
| 325 | |
| aac ccg gtt gtt ccg gaa gtg gtt aac cag gta tgc ttc aaa gtc atc | 1122 |
| Asn Pro Val Val Pro Glu Val Val Asn Gln Val Cys Phe Lys Val Ile | |
| 330 | 335 |
| 340 | |
| ggt aac gac acc act gtt acc atg gca gca gaa gca ggt cag ctg cag | 1170 |
| Gly Asn Asp Thr Thr Val Thr Met Ala Ala Glu Ala Gly Gln Leu Gln | |
| 345 | 350 |
| 355 | 360 |
| ttg aac gtt atg gag ccg gtc att ggc cag gcc atg ttc gaa tcc gtt | 1218 |
| Leu Asn Val Met Glu Pro Val Ile Gly Gln Ala Met Phe Glu Ser Val | |
| 365 | 370 |
| 375 | |
| cac att ctg acc aac gct tgc tac aac ctg ctg gaa aaa tgc att aac | 1266 |
| His Ile Leu Thr Asn Ala Cys Tyr Asn Leu Leu Glu Lys Cys Ile Asn | |
| 380 | 385 |
| 390 | |
| ggc atc act gct aac aaa gaa gtg tgc gaa ggt tac gtt tac aac tct | 1314 |
| Gly Ile Thr Ala Asn Lys Glu Val Cys Glu Gly Tyr Val Tyr Asn Ser | |
| 395 | 400 |
| 405 | |
| atc ggt atc gtt act tac ctg aac ccg ttc atc ggt cac cac aac ggt | 1362 |
| Ile Gly Ile Val Thr Tyr Leu Asn Pro Phe Ile Gly His His Asn Gly | |

66260-24180460

Sub. 61

410 415 420 1410
gac atc gtg ggt aaa atc tgt gcc gaa acc ggt aag agt gta cgt gaa
Asp Ile Val Gly Lys Ile Cys Ala Glu Thr Gly Lys Ser Val Arg Glu
425 430 435 440
gtc gtt ctg gaa cgc ggt ctg ttg act gaa gcg gaa ctt gac gat att 1458
Val Val Leu Glu Arg Gly Leu Leu Thr Glu Ala Glu Leu Asp Asp Ile
445 450 455
ttc tcc gta cag aat ctg atg cac ccg gct tac aaa gca aaa cgc tat 1506
Phe Ser Val Gln Asn Leu Met His Pro Ala Tyr Lys Ala Lys Arg Tyr
460 465 470
act gat gaa agc gaa cag taatcgtaca gggtagtaca aataaaaaag 1554
Thr Asp Glu Ser Glu Gln
475
gcacgtcaga tgacgtgcc 1573

<210> 2
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Designed
oligonucleotide based on aspartase gene derived
from Escherichia coli K-12

<400> 2
ggataatcgt cggtcgaaaa 20

<210> 3

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Designed
oligonucleotide based on aspartase gene derived
from Escherichia coli K-12

<400> 3

cgtcacatga cgtgccttt

19

[SEQUENCE LISTING FREE TEXT]

SEQ ID NO: 1: cDNA to the mRNA of an Escherichia coli K-
12-derived aspartase gene.

SEQ ID NOS: 2 and 3: oligonucleotide designed based on the
sequence of an Escherichia coli K-12-derived aspartase gene.